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The project method of instruction.



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Vol. V, No. 1

Whole No. 50

The Project Method of Instruction



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EDITORIAL.**WIDESPREAD INTEREST IN PROJECT-PROBLEM
INSTRUCTION.**

TEACHING, number 45, February, 1919, was devoted to Project-Problem Instruction, and the demand for the number was so great that the supply has been exhausted for several months. Another issue of TEACHING devoted to the same subject is presented at this time because of the manifest interest on the part of educators.

The project method of instruction is used successfully in the Training Schools of the Kansas State Normal from the kindergarten to the senior high school, but has not yet been tried in the latter. The material presented here covers only a few of the many projects either completed or under way. It has seemed best, however, to discuss a few projects in sufficient detail to show the method of procedure and the results obtained, rather than to list all those performed or under way. None of the projects published in TEACHING, number 45, have been reprinted here.

The Function of the Project.

H. G. LULL, Director of Teacher Training, Kansas State Normal School.

It is, without doubt, fallacy to maintain that "Whatever society is the school should be." The school is not a miniature reproduction of society, but rather an instrument of society to accomplish certain results. The citizens of a democratic society, for example, should be able to originate and plan activities as well as to execute them. The fact is, however, that the school gives undue emphasis to the execution of activities which are originated and planned by others, except in connection with its social organization. Practically all of the so-called regular work of the school is originated by the teachers, while the pupils are required to execute the teachers' plan. This is, also, true of many of the so-called social activities of the school as is illustrated by the ordinary organization of debating and athletics. In debating and athletics, however, the coaches do sit on the side-lines when the contests are going on, while in the ordinary school studies the teacher is always the-very-much-depended-upon-leader of the class.

To learn to follow directions, to take commands, to obey, and to execute faithfully and accurately what one is told to do are, of course, invaluable attainments, and the school is doing well to emphasize this phase of training. On the other hand, there is great need for the development of initiative. In its efforts to develop initiative there is great danger that the

school will neither secure initiative nor even the execution of the plans of others. The recitation all too frequently consists in a sort of melee of discussion which only ends in more confusion than it begins with. Such a condition results from the fact that teachers have caught the idea of spontaneity without at the same time appreciating the necessity for controlled and orderly activities. The change from teacher-initiative to pupil-initiative requires something more than providing opportunities for free-for-all discussions.

In the ordinary recitation or study there are no methods of procedure which the pupils must know; the teacher decides and directs how the work shall be done. Children do not act together successfully in a game or a play without previously adopting rules of procedure. In all successful group activities of adults, also, the members of the group originate or adopt and follow certain rules of procedure, which are, of course, always subject to their own revision. It seems clear that the school will accomplish little in developing individual and group purposing, planning and execution until the pupils themselves come to understand and follow certain general methods of procedure.

On the other hand, there are no unvarying methods of procedure to be used in all projects alike. The nature of the thing to be done must always be considered in determining the methods, just the same as the purpose of a game is an important factor in determining the rules of the game. However, the essential points in project instruction may be more or less accurately determined.

Pupils individually or as a class may, for example, form a purpose to learn certain multiplication tables perfectly within a week, to drill upon combinations with which they have trouble. Having originated their purpose and made their plans, they may arrange for a series of drills and finally get a test for themselves to see what has actually been accomplished. A class may form a purpose to dramatize a piece of literature, to present to the whole school the next Monday morning in assembly period. The class may plan the preparation of the play by having the various members choose the parts which they wish to represent. In case two or more pupils desire the same part, they may draw lots, or the class may decide which pupil shall take the part in question, by voting. Or if time permits, all parts of the play may be assigned by the try-out system, the class appointing judges from among the pupils, not entering the contest, who shall assign parts after the trials have been made. Or the class may decide to ask the teacher to assign the parts, either with or without the try-out. The class may appoint a pupil to act as stage director of the play, and all pupils, not otherwise engaged, to act as critics of rehearsals. After this preliminary planning, the learning of parts and the rehearsals follow. The results of the planning, learning of parts, and of the rehearsals are tested when the play is finally given before the whole school. To make such a project complete, the pupils should become their own critics by discussing their successes and failures at the next meeting of their literature class after the play is given.

A simple project in composition was originated and worked out by a small group of intermediate grade pupils during one fifty-minute period.

The teacher said, "It is time for us to start some Christmas work." A pupil replied, "We wrote a play and a story for Thanksgiving, can't we do something different?" Another suggested, "If we write a play, let's give it in assembly." A third pupil said, "We haven't time to do all of that before Christmas." Plays were discussed for two or three minutes and rejected. Finally, one girl said, "I know, I would like to write a letter to a little Belgian girl." The teacher remarked that Christmas for the Belgian children would be much happier than last year, but still they would probably not receive many gifts. Then a pupil asked, "How would it do to send toys to the Belgian children and make verses to put with the toys?" This proposal delighted the class, and appropriate toys were named and written on the board rapidly. Some of those named were: doll, doll carriage, rocking horse, kiddy-kar, ball, sled, skates, etc. This is, of course, a very simple form of project. Nevertheless the foregoing description shows something of how the project originated with the pupils. A full description of the work of the pupils in composing the verses would require too much space, but the following stanzas were written during the recitation period with no more assistance from the teacher than an occasional suggestion of doubt or approval:

"We children here are sending toys
To little foreign girls and boys,
And may they bring to all good cheer,
As Christmas time is drawing near."

"My Dolly Dear, I'm sending you,
To a little Belgian girl.
Tell her that you have been christened Sue,
Don't let her call you Pearl."

"Some boy can have my rocking horse,
To ride on all day long:
He's only made of wood, of course,
But yet he's very strong."

"I'll send to Jean my kiddy-kar,
It's better than a horse,
And he may travel, oh, so far,
And it won't buck, of course."

How does the project method of instruction differ from the question and answer method? The project method attempts to transfer the purposing, planning, and the organization of the lesson, usually performed by the teacher, to the pupils as far as possible. When using the question and answer method, the teacher, of course, tries to have the pupils appreciate her purposes, plans, and organization of the lesson, but in no real sense do they carry on these processes themselves. The pupils contribute here and there during the progress of the lesson by answering questions asked by the teacher, but they do not share, to any great extent, the responsibility for carrying on the work of the recitation from its origin to its conclusion. The following illustration will help to make this point clear. The teacher had written a number of topics on the board and had chosen to have the class recite first upon the topic, "Capture of Constantinople by the Turks." Using the question and answer method the recitation began as follows:

TEACHER: Let us take the second question, "Capture of Constantinople by the Turks." Floyd, you tell us about that.

FLOYD: All I know about it is that the Turks—(pauses)

TEACHER: Let me help you a little bit. Where did the people learn about these spices?

PUPIL: They learned from the traders over there. They came over from Constantinople; they came over in caravans but the Turks captured Constantinople, and so all these Portuguese, Spanish, English, and French tried to find some other way of getting around there.

TEACHER: Good. There is a point he did not tell me. How did these people, the English, French, Portuguese, etc., learn to want these spices?

Another important difference between the project method and the question and answer method consists in the fact that the former is a method of study as well as of recitation, while the latter is a method of the recitation only. Again, the project method is more comprehensive in that it frequently includes the question and answer method, although usually informally used. The following lesson shows how a project in geography may originate and be prepared for study.

The teacher took the initiative by saying, "We have been studying the productions of New England and we have seen how many things were manufactured there which were grown or dug out of the earth somewhere else. Let us see what we can discover about the productions of Texas. Where shall we find information about the productions of Texas? The pupils suggested several sources, including their geography textbook. After a little preliminary reading, one pupil said, "I find that cotton is grown in large quantities in Texas, but I have not found out what is done with it." Another pupil presently volunteered the information that cotton is not manufactured into cloth in Texas. Another suggested that it is shipped to the eastern states to be manufactured, while someone else verified this statement, finding a similar statement in the geography textbook. Finally a pupil said, "I don't see why Texas should not manufacture her own cotton." This question proved to be the origin of the project and all of the pupils of the class went to work to find out why there are no cotton mills in Texas. The record of one pupil's study follows:

WHY THERE ARE NO COTTON MILLS IN TEXAS.

"The reason there are no cotton mills in Texas is because there are very few rivers. The rivers they do have do not carry a steady volume of water. Sometimes there is not enough water to run the mills, and at other times there are floods.

"They could use coal for power, but there are a very few coal mines in Texas. The coal would be harder to ship than the cotton.

"Texas is a very good place to raise cattle, and people ought to raise cattle instead of putting in cotton mills.

"It takes very many people to work in cotton mills, and being a farming state, Texas isn't very densely populated.

"The machinery would have to be sent a long way to be put into the mills, because there are very few, if any, iron mines in Texas.

"There are few cotton mills in the South, but the East still ranks ahead.

"The ready-to-wear garments are made in the North and the East rather than in the South. For this reason it is easier to have mills in the East than in the South. There are more people in the East than in the South to buy the garments.

"I think it's best to have our cotton mills in the Eastern States and have Texas do what she can best do: that is, raise cattle."

After all of the pupils had made records of their studies, they reported

them to the class in the next recitation period. Comparisons were made and each pupil revised his report.

Thus far we have tried to show some of the essential differences between the project method and the question and answer method. It ought to be clear that the question and answer method should not be the only method used and that the project method is superior to the question and answer method in teaching some lessons at least. A project may arise in a variety of ways. For example, it may be suggested while studying matters outside of school subjects. An illustration of the origin of such a project might take place in connection with a study of the thrift activities of the pupils of a class which would include questions regarding the purchase of thrift stamps, savings accounts, earning money by carrying papers and the Saturday Evening Post, delivering messages, doing garden work, etc. Two projects arising in connection with such studies might be stated as follows: (1) "To find the best kinds of investment for the pupils of our class," (2) "To find the best ways of earning money by the pupils of our class." Projects of this kind may arise in connection with the publication of a school paper, the celebration of the birthdays of eminent Americans, school debates, and other school activities.

The pupils' study of the investment project, above referred to, would be sure to raise the question regarding the advantages of investing in thrift stamps as compared with investing in liberty bonds, bank savings deposits, and other forms of small investments open to pupils. Such a project as this would naturally be worked out in the arithmetic class. The pupils should divide up the work of investigating the various kinds of investments among the pupils of the class, one group of pupils taking one form of investment, and another group another form, and so on. During the recitation period the class should make a general outline of information to be secured in studying all kinds of investments and each group should add to this outline whatever points are needed to find the information on the particular form of investment assigned to them. As soon as the outlines are completed the work of gathering and studying the information should proceed. When the work is sufficiently advanced, the pupils should come together again and report the results of their several investigations to the class. Revisions will be suggested at this time and further study will follow. Finally, when all studies are completed, the class should meet again to give their revised reports and to draw their final conclusions. They should, also, decide in what respects their conclusions are different from what they expected at the beginning.

The following observation and score cards are intended to aid the teacher in conducting project instruction. She may use them both as guides and as checks upon her own activities as well as those of the pupils.

PUPIL ACTIVITIES IN THE RECITATION PERIOD.

	SCORE.
1. Ability of the pupils to work as a social group.....	
2. Ability of the pupils in planning and outlining projects.....	
3. Ability of the pupils in raising and stating problems.....	
4. Ability of the pupils to distribute the work of the project among themselves, which is to be done in the following study period.....	
5. Ability of individual pupils to make reports to the class which they have previously worked out in the study period.....	

6. Degree of attention and skill of the class in taking notes on the reports being given by a pupil.....	SCORE.....
7. Ability of the class to carry on fruitful discussions and ask questions about matters which are not clear to them.....	.....
8. Ability of the class in giving criticisms intended to help the pupil reporting.....	.....
9. Ability of the class in summarizing and drawing conclusions when all reports of problems or points related to the class project by individual pupils have been given.....	.....
10. Ability of the pupils in discovering their needs for skill or knowledge of certain technique required to work out the project or to solve the problem.....	.....
11. Ability of the pupils in planning and in conducting drills or work in acquiring knowledge of technique.....	.....
12. Ability of the pupils to respect leadership in the members of their class..	.....
13. Ability of individual pupils in being thoughtfully active throughout the recitation.....	.....
14. Degree of good leadership developed in the recitation.....	.....
15. Ability of the pupils to cooperate freely, helpfully and orderly.....	.....
16. Ability of the pupils to criticize each other's work sympathetically and to receive criticism in the right spirit.....	.....

TEACHER ACTIVITIES IN THE RECITATION PERIOD.

1. Skill in stimulating the class to originate and plan projects.....	SCORE.....
2. Skill in leading pupils to sustain their original purpose until the project is finished.....	.....
3. Skill in developing leadership among the pupils.....	.....
4. Skill in leading the pupils to work as an orderly social group.....	.....
5. Skill in stimulating the pupils to raise and state problems which must be solved before the project can be worked out.....	.....
6. Skill in securing report of problems or parts of projects by individual pupils to the class.....	.....
7. Skill in stimulating pupils to become efficient critics of their own work..	.....
8. Skill in stimulating pupils to reorganize their work and make new investigations.....	.....
9. Skill in stimulating the class to draw conclusions carefully.....	.....
10. Skill in maintaining her position during the recitation as that of an umpire.....	.....

PUPIL ACTIVITIES IN THE SUPERVISED STUDY PERIOD.

1. Conditions favorable for allowing pupils to move about the room to find materials, to use the dictionary, maps, reference books, etc.....	SCORE.....
2. Degree of order and lack of confusion in using materials.....	.....
3. Degree of absence of any distracting conditions which prevent the pupils from studying successfully.....	.....
4. Ability of the pupils to work or study individually or in small groups of not more than two or three.....	.....
5. Ability of individual pupils to work on problems or parts of projects which were stated and assigned by the class in the recitation.....	.....
6. Ability of each pupil to write down his problem or part of the project and then proceed to outline it and think it through before reading or gathering information.....	.....
7. Ability of each pupil, after he has made his tentative or reading outline, to investigate its validity by reading from available sources of information, to prove or disprove what he has outlined and to determine what other facts are needed to complete his report.....	.....
8. Ability of each pupil to revise his original outline in view of his reading or investigation.....	.....
9. Ability of each pupil to sustain careful, purposeful thinking throughout the study period.....	.....
10. Skill of each pupil in finding and using information or materials.....	.....
11. Skill in writing good outlines and expositions of problems or parts of projects.....	.....

TEACHER ACTIVITIES IN THE SUPERVISED STUDY PERIOD.

	SCORE.
1. Skill in securing active study application by the pupils during the study period	
2. Skill in providing the pupils with facilities, such as materials and sources of information with which to work.....	
3. Skill in stimulating pupils to maintain their original purpose until results are secured	
4. Skill in stimulating the pupils to think accurately in constructing the tentative outlines of their problems or parts of projects.....	
5. Skill in stimulating the pupils to gather materials, observe experiments, or read for information required by their tentative outlines.....	
6. Skill in stimulating the pupils to draw conclusions carefully.....	
7. Skill in knowing accurately what each pupil has accomplished in the study period before the pupils recite again.....	
8. Skill in giving suggestions which lead to good thinking, rather than acting as an authority, dictating the work to the pupils.....	

DRILL PROJECTS.

The following score cards apply to both drill work in the recitation and in the study period:

Pupil Activities in Drill Work.

	SCORE.
1. Ability of the pupils to discover their own needs for drill.....	
2. Their ability to set up definite standards of attainment.....	
3. Their ability to plan ways and means of accomplishing the desired results of drill work.....	
4. Their ability in sustaining their original purpose through repetition and practice until the desired results are secured.....	
5. Their ability to use the results of drill work in working out projects and in solving problems.....	

Teacher Activities in Drill Work.

1. Skill of the teacher in discovering specific needs for drills.....	.....
2. Her ability in deciding what types of drill are needed.....	.....
3. Her ability in stimulating pupils.....	.....
(a) To set up definite standards of attainment.....	.....
(b) To set up practical standards of accuracy and speed, which are high enough to require good effort but not so high as to discourage them .....	.....
(c) To plan ways and means of accomplishing the desired results..	.....
(d) To sustain their original purpose through repetition and practice until the desired results are secured.....	.....
(e) To use the results of drill in working out projects and in solving problems .....	.....
4. Her ability in securing repetition with maximum attention.....	.....
(a) By variation in the procedure.....	.....
(b) By placing a time limit.....	.....
(c) By using the incentive of emulation.....	.....
(d) By having each pupil compete with his own best record.....	.....
(e) By having each pupil measure his work with the results of standard tests .....	.....
(f) By the teacher keeping herself wide awake and attentive to the pupils' work .....	.....
5. Her ability in limiting training when standards are reached.....	.....
6. Her ability to recognize and minister to individual differences.....	.....
7. Her ability in maintaining drill exercises until constancy (constancy in accuracy and speed) of performance is secured.....	.....
8. Her ability in grading the pupils. Does she use the normal curve of distribution? .....	.....

APPRECIATION ACTIVITIES.

	SCORE.
1. <i>Esthetic Appreciation.</i>	
1. Ability of the teacher to appreciate that which she is trying to lead her pupils to appreciate.....	
2. Her ability in helping the pupils to acquire the right kind of technique, at the right time, to increase their appreciation.....	

3. Her ability in placing the children directly in contact with that which she hopes to have them appreciate.....	SCORE.
4. Her ability in stimulating the pupils' spontaneous expression of their appreciations .....	.....
5. Her ability in providing opportunities for creative work as a means of heightening the pupils' appreciation .....	.....
2. <i>Intellectual Appreciation.</i>	
1. Her ability in stimulating the pupils to form specific purposes to guide their appreciation .....	.....
2. Her ability in supplying the pupils with a sufficient groundwork of facts to comprehend the thought of the author, speaker, etc.....	.....
3. Her ability in leading the pupils to judge of the soundness and general worth of statements .....	.....
4. Her ability in leading the pupils to understand the relationship of facts, .....	.....

EXAMPLES OF PROJECTS.*

By comparing the examples of projects of the primary grades with those of the upper grades or of the junior high school, it will be noted that the former seem to be devised to develop by-products in the technique of reading, writing, spelling, numbers, etc. This is as it should be, for the main purpose of instruction in the primary grades is, after all, to give the children the possession of certain tools which they may use in their thinking processes later on. The projects of the upper grades, on the other hand, require the use of the techniques of reading, language, spelling, number combinations and the like in working them out. The projects in these grades are, therefore, more valuable in themselves and only indirectly valuable as means of securing by-products in the school arts.

The following projects show quite clearly that project work should not be regarded as a special feature of instruction. Indeed, project work is fundamental, because it requires accurate knowledge and skill in the technique of school subjects. It requires the ability to select relevant facts and materials and to reject those which are irrelevant in the realization of chosen purposes. In short, project instruction requires reflective thinking, and this much cannot be claimed for the ordinary methods of routine instruction.

Moreover, the group procedures required in working out the projects which follow should be convincing evidence of the citizenship values involved. At every turn team work is required. The child must cooperate and be willing to subordinate his own desires to the will of the group. He must be ready to lead when the opportunity comes. He must learn to take and give criticisms in the right spirit. He must assume his share of the group's responsibilities, be energetic, careful and painstaking in his part of the work. Each pupil profits not only by what he does, but, also, from the work done by the other pupils of his group.

Examples of completely worked out projects by the pupils without the intervention of the teacher are seldom found. Nor are such projects necessary for successful instruction, provided the teacher knows how and when to hold herself in check. The old platitude that "the teacher should never do anything for the pupils which they can do for themselves" should be displaced by the more practical statement that the teacher should never do for the pupils what they can *profitably* do for them-

selves. The teacher should go about her work with the question constantly in mind, "What can the pupils profitably do for themselves?" A delicate adjustment between indirect and direct methods of instruction is needed in all project work with an increasing tendency to use the former.

For a fuller explanation of project work as carried on in the Training Schools of the Kansas State Normal School, Emporia, readers are referred to the following articles:

LULL: Project-Problem Instruction, *School and Home Education*, December, 1918.

LULL: Relation of Project-Problem Instruction to the Curriculum, *School and Home Education*, January, 1919.

LULL, WILLIAMS, BILLIG, WRIGHT, WILSON: Examples of Project-Problem Instruction, *TEACHING*, No. 45, February, 1919.

LULL: Socializing School Procedures, *American General Sociology*, May, 1919.

FIRST-GRADE PROJECT: A CHRISTMAS PRESENT FOR FATHER.

MISS ACHSAH HARRIS, Head of Primary Department.

"Mother's gift is ready, now what shall we make for father?" Many suggestions were made in regard to articles he could use, and also things that he would like to eat.

The story of Gemila, the Child of the Desert, had been previously presented to the children and they were much interested in Gemila's food and especially the dates from the date palm tree, how we get them and the various ways in which we use them. So after a number of good things to eat had been named, some one suggested "a box of stuffed dates." The conversation was as follows:

"A sack of nuts or a box of candy."

"Yes. And we could make candy if we had sugar or chocolate."

"Sugar is scarce. What might we put in a box to take the place of candy?"

"I've tasted dates."

"What kind?"

"They had sugar on the outside and nuts on the inside."

"Oh, they were stuffed dates, were they?"

"Stuffed dates is what they are!"

The children were quite sure that we could make stuffed dates in our own room. Then it was suggested that a dozen dates would make a nice box full, and so we planned on that number. Several of the children had seen mother stuff dates and were quite ready for the question, "What will be needed?" (Dates and nuts.) These names were written on the blackboard. The next question, "How many dates do we need?" was answered after recounting the children. For twenty children, each child needing a dozen dates, we would want twenty dozen. "But how do they sell dates at the stores?" By the pound, or better how many dozen in a pound? "How could we find out?" "We could buy a pound and then count." The same suggestions were made in regard to the nuts, though it took some time to decide upon the kind of nuts. It was suggested that peanuts are good and, also, cheap. The children agreed to have the teacher buy the pound of dates, in order that they might find the number of dozens in a pound. In addition to plans for buying, the children decided that they would need aprons. So all carried home

notes saying, "Bring aprons." These were written on small slips of paper and pinned to the dress or jacket before going home.

With hands scrubbed clean we proceeded to find the number of dates in a pound. The dates were laid out in rows of a dozen each. The pound gave us about four dozen dates. So we settled on four dozen to the pound. All the children were anxious to prove that they could count the dozen accurately. With twenty children needing twenty dozen dates, we discovered how many pounds we needed. We had bought one pound and that would furnish dates for four children. Now how many more must we buy?

Four children stood. They would need one pound; then four more, another pound, etc., until they found that twenty children would need five pounds. Four more pounds were required. One pound cost thirty cents. What would they all cost? This was a problem to be counted out. So we said, "If one pound costs three dimes, how many dimes would we need?" On the blackboard we placed, "4 pounds cost 3 dimes." This was written five times, and three toy dimes were shown each time, the children counted the dimes by threes, as 3, 6, 9, 12, 15 dimes.

Our peanuts were counted in a similar manner, one peanut furnishing meats for two dates. And we then determined the number of pounds of peanuts and their cost. The making of a box just the right size to hold the dozen dates was our next problem. Various sizes were suggested and various arrangements for the dates, as the one dozen in one row, making a long, narrow box; or the one dozen in two rows, making a box about two and one-half by six inches. One dozen dates were placed on a small plate and then arranged on waxed paper showing the two arrangements. All liked the two rows better. They all agreed upon the following points to be kept in mind, in planning the boxes:

Each box must hold a dozen dates. We must line the box with waxed paper to keep the dates from "drying out."

We must make a cover so that the dates may be kept clean.

We must decorate the box, make it look like a Christmas box.

We must tie it with pretty ribbon, or use a Christmas seal.

The first attempt at making the box was unsatisfactory in many respects. Inexpensive material was used and the children were given an opportunity to experiment. Later the box was made of good construction paper and covered with "holly paper." The use of the foot measure was encouraged, neat work and correct measurements received favorable comment, and the teacher showed the children's good work to the class as a whole. The making of this box took two or three full periods. When every box was finished, then the needed amount of dates was purchased, and the bill written on the blackboard. Next we had to plan just how to work, so that everything would be done neatly and carefully, that desks and clothing would be protected (not spoiled).

One group had counted out the dates in dozens, another had counted twenty saucers, and then a dozen dates were placed in each saucer. Another group had shelled the peanuts, and a dozen good meats were placed in each saucer by the dates. Knives had been borrowed from the domestic science department. Then with hands scrubbed, jackets and dresses pro-

tected by aprons, paper toweling tied over the hair, and desks scoured with clean paper, the small hands carefully cut open each date, removed the seed and put in its place a good meat from the peanut. As soon as a child had his dates stuffed, he placed them in his paper-lined box, covered them with another sheet of waxed paper, slipped on the lid and tied them with a small piece of red ribbon, fastened with a Christmas seal.

On the following day, they made Christmas cards to accompany the boxes.

"What kind of a card?"

"A Christmas card with a Santa Claus on it."

"Do all Christmas cards have pictures of Santa Claus on them?"

"Some say, 'Merry Christmas.'"

"I've seen some with holly."

The children finally agreed to use, "Merry Christmas to Father." This was placed on the blackboard, and the children practiced writing the greeting, effort being made to make the writing clear and even. After deciding on the size of the card to be used, they tried to write this greeting on paper one by three inches, and then on the "good card." Many of the children decorated their cards with bits of holly, cut from the paper such as had been used to cover their boxes.

The children had been told that we get dates from Gemila's home. One child remarked, "We get some dates from California, that isn't Gemila's home." And such questions followed as, "In what other places do dates grow?" "How do we get them?" Pictures of date palms and other trees growing in tropical countries were shown to the class, also, pictures of men and women gathering and packing dates. All the children had seen the packages of dates bearing the Dromedary brand.

We decided to make a picture reading lesson (to give to the second grade in chapel) that would tell them some of the things we know about dates. The following questions were presented by the teacher and answered by the children:

"In what kind of a country do dates grow?"

"Who gather the dates?"

"Who pack them?"

"How do they get to us?"

"How do we use dates?"

STORY.

Dates grow in a warm country. (Pictures of tropical countries shown.) Men gather the dates. (Picture.)

Women pack them. (Pictures.)

Large ships bring them to New York. (Picture of a ship.)

The trains bring them to us. (Picture of a train.)

Here is a picture of father.

Here is his Christmas box. (Show box of dates.)

Each sentence was printed on a separate slip, accompanied by a picture to help make the meaning clear.

The teacher, in planning the foregoing work, had in mind the following points: What are some of the projects possible for first-grade children to work when fulfilling the desire to make a Christmas present for father? What might be the educative value coming from each of these?

The one which seemingly contained most of educative value to the children must be the one to select.

The following definite lessons grew out of meeting this desire to make a Christmas present for father:

1. *Reading*.—(a) The bill for the sale of the dates, nuts, and waxed paper (the children suggested later that bread paper would have done just as well). (b) The lesson prepared to give to the second grade chapel. (This might afterward have been made into a small book.) (c) The slips taken home, "Bring aprons." (d) The cards containing, "Merry Christmas to father."

2. *Writing and Spelling*.—"Merry Christmas to father."

3. *Geography and Language*.—An acquaintance with tropical or warm countries, and trees and fruits growing there. Picture of people, trees (especially date palms), and fruits found in the warm countries. Gathering and packing of dates. Means of transportation.

(To answer the question, "Where do dates come from?" the teacher must also be prepared to answer the following, "What is the most truly educative way for the child to obtain the answer to his question?" Also, what relation to this best way do pictures bear? Another question which might have arisen, "Where do peanuts come from?" The teacher should have been as fully prepared to answer.)

4. *Numbers*.—

(a) Practical use of the dozen, also half dozen: Counting dates, counting nuts.

(b) Counting to twenty: Counting children, counting saucers, counting slips for greetings.

(c) Counting by threes:

3 dimes
3 dimes
3 dimes
3 dimes
3 dimes

15 dimes

(This was followed by a bean-bag game, giving drill in counting scores by threes.)

(d) Counting by fours:

1 pound equals 4 dozen
1 pound equals 4 dozen
1 pound equals 4 dozen
1 pound equals 4 dozen
1 pound equals 4 dozen

5 pounds equal 20 dozen

There was much counting in trying to find out what the total cost of our supplies was, counting of pennies and dimes from our boxes of toy money. We found this part of the money side difficult for many of the children, but it led to a great interest in dimes and dollars.

At the close of this work each child in a business-like manner presented his "dime," which was the amount due from each to meet the expense of the "Christmas Box."

Our large project for the month of November was that of helping others in need of clothing, food and fuel.

By bringing one large apple apiece, we would have 106 fine apples. By bringing one large potato apiece, we would have 106 fine potatoes.

The members of our third-grade language class prepared talks telling of the needs of certain people in our city and the assistance we might be able to give them by each bringing one apple and one potato. The child

preparing the best talk was chosen to speak to the intermediate grades inviting them to help us. This they did and when we (in chapel) measured, in pecks and bushels, the number of apples and potatoes that had been carried to school we had one and one-half bushels of each.

The children in the intermediate grades invited us one morning in chapel to coöperate with them in bringing coal, each child to bring a small paper bag full. We did this, and the report from the upper grades was that there were "ever so many pounds."

In the month of December, our attempt was to do something to give *pleasure* to others. So we tried to make gifts that might be used by our "Good Fellows," to distribute to little friends in the city on Christmas morning. Our result was five sets of "A, B, C, Blocks," packed in boxes (these boxes were also made by the children), thirty-six picture puzzles, enclosed in red envelopes fastened with Christmas seals, one box of toy animals (wood, painted). Besides the above, each child made a present for the "home people."

Suggested Projects for the Primary Grades.

A Puppet Show, to raise money for the Red Cross fund.

A Bed Time Story Book for a wee girl's Christmas.

A Picnic for the Third B Class.

A Robert Louis Stevenson Program for chapel.

A Rosetti Program for chapel.

An Entertainment for the First and Second Grades, or for our Mothers, "Christmas in Other Lands."

A SCHOOL MAGAZINE PROJECT.

MISS RUBY MINOR, Supervising Teacher of English.

Just how to launch a project so that there is a maximum of purposing and planning on the part of the pupils seems to be one of the most difficult problems of the teacher who is loath to relinquish her position as dictator. Many who are honest in the desire to follow a more modern course are equally embarrassed in selecting a procedure which enables the teacher to be a guide and helper, and permits freedom for the pupil without the undesirable license which so often accompanies a mistaken idea of initiative.

Any attempt to describe a project must of necessity be somewhat futile, as it is extremely difficult to reproduce in a realistic way an atmosphere which is the result of many personalities struggling for developing and expression. It is this social atmosphere which is one of the desired attributes of the project method.

The limitations of this article will not admit of an exact reproduction of every stage of development, but it is hoped that the account will be suggestive of possibilities in the field of English.

The first week of school was spent in activities conducive to becoming acquainted with the pupils, that the varying interests and capacities of the different classes (4B-6A, inclusive) might be recognized. This enabled more efficient planning to meet individual needs, and the use of individual capital to the best advantage. During this first week pupils were given an opportunity to suggest lines of work in which they were

most interested. Various kinds of reading were suggested, including almost all of the "desired types," but fairy tales, tales of adventure, and history stories were the most popular. Producing plays seemed a unanimous choice as a favorite activity. No one suggested composition as favorite pursuit.

During the second week an effort was made to develop a better school spirit, and to launch the project which seemed a possibility to the supervisor.

The situation was built somewhat as follows:

Question: If you could have what you would wish, how would you want our school to compare with other schools?

Pupils unanimously voted that they wanted our school to be the best. Some even asserted that it was already the best.

Question: Why should the Training School wish to be the best school?

Obvious reasons were suggested, chief of which was the fact that Normal students from over the state were sent to our school for the benefits of observation. As the pupils began to suggest standards of achievement, some time was spent in listing these standards which embodied ideals of conduct as well as attainment in subject matter.

Question: How can we show that we are attempting to raise standards in our school?

Various suggestions came in response to this query. A few illustrations will show the trend of thought. (1) Tell other people about our school. (2) Have people visit us and see what we do. (3) Advertise in the *Gazette*. (4) Make signs and have a parade.

Every suggestion was discussed and evaluated by the class. The pupils decided that to talk too much about the merits of our school might appear boastful. The second suggestion seemed best, and led to the question: How can we interest others so that they will wish to visit us? This led to a discussion of what a city does to advertise or interest people in its welfare. The comparison was easily made and pupils suggested that we might publish a paper.

Since the Normal School and the Junior High School each publishes a paper, it was suggested that we might publish a magazine. The relative merits of a newspaper and a magazine to fulfill our purpose were then discussed and the pupils finally voted to publish a magazine as a united bit of work for the intermediate department.

It should be noted that the term "project" was not used in talking to the pupils. The planning was their own, and grew out of a felt need for our school. It was, therefore, a real project for them.

Questions now came too fast to be answered. What shall we call our own magazine? What shall we have in it? May we really print it? Who will be the editor? How often shall we publish it? What shall we charge for it? When shall we put out the first copy? May we have illustrations and cartoons?

These questions were taken up one at a time as problems for discussion. Each pupil was encouraged to express an opinion and support it by intelligent argument. In selecting a name considerable originality was manifested. Each of the three grades met separately and by discussion and vote selected a name. In the regular assembly period, presided over by a pupil chairman, the final choice of each grade was presented.

Speakers from each grade previously elected by class vote were invited to speak in behalf of their choice. One representative from each grade was appointed as a committee to count ballots. The parliamentary practice involved in this procedure was very helpful, and gave to the magazine an added dignity in the estimation of the pupils.

In regular class-room periods a discussion of suitable contents resulted in the following suggestions: Stories, poems, editorials, riddles, tongue-twisters, advertisements, clippings, jokes, essays, current events, cartoons, illustrations, and school news. An editorial staff consisting of one member from each grade was elected by the class vote. The supervisor of English was elected managing editor by the vote of the assembly.

The largest problem now to be settled was that of printing. After a class discussion of possible ways and means the pupils of the various grades decided to divide into groups and write letters to the various people whose assistance was desired. A much needed drill in the forms of letter writing resulted in very creditable letters to the director of teacher training, the printer in charge of the Normal print shop, the professor through whom the requisition must be made, and the head of the industrial arts department. These letters, with the ensuing answers, were read in assembly and filed as business records.

In the meantime each class exercise in English turned itself into a "booster" meeting for the magazine. It was discovered that the sixth grade, especially the boys, were much interested in poetry. As a preparation for the study of "September," by Helen Hunt Jackson, pupils were asked to list ideas which were to them typical of September. After a fair sized list was placed on the board, the teacher read the poem while pupils listened for new ideas to add to their list. During this study the importance of ideas was emphasized. With the publication of the magazine always in mind a pupil suggested that we write a September poem for the magazine. Some were eager to try; others were less confident and feared to try. A little comment on being "a quitter" soon turned the fear of failure into a desire to try.

The class agreed that to write a class poem in which all could help might be easier. Here again was opportunity to stress the importance of ideas, for we really wished the pupils "to have something to say," instead of "to have to say something." Soon different pupils suggested a beginning line, and the class chose the most promising to write on the board; then everyone worked to get a second line. Before the first stanza was completed criticisms came fast "That does n't sound well." "That is too long." "That has n't any meaning." Then we had to stop to discuss what a poem must have, besides ideas, in order to be poetry. The pupils decided that the words at the end of the line must "sound alike," and that it must be "smooth," "singing," or "swaying." The words "rhyme" and "rhythm" were suggested by another pupil and the class decided to use them in the future discussion.

It was thought best not to introduce other ideas about poetry at this time, as rhyme and rhythm were so important a part of the poem which we were consciously imitating. (Later the class was delighted with

some unrhymed lines full of poetic fancy, which they found in a magazine published by another school.)

The pupils soon discovered that every line need not rhyme. In less time than it has taken to describe it, the class had a first stanza and were eager to begin another. When the poems were completed the pupils suggested that if we could sing our poems we could test their rhythm. A committee from each class was appointed to write to the music supervisor asking her to find an appropriate tune. After a few rehearsals each class sang its poem in assembly, to the delight of the entire department.

The suggestions then came from the class that each pupil might try to write an October poem. As a class exercise, ideas suggestive of October were listed in the assignment books, and with these suggestions, each pupil succeeded in composing a poem. The pupils worked on this individual poem during a supervised study period, the teacher suggesting and assisting when desired. Care was taken that real effort was recognized and encouraged. The poems varied in length from one to five stanzas. No one failed outright, but a great deal of individual difference was manifested. The pupils asked for the privilege of helping each other, and a fine social atmosphere was the result.

The 5A class approached the work for the magazine in a different way, but none the less enthusiastically. Interesting experiences, real and imaginary were developed as oral compositions in class, then were written and criticized in class discussions. The writing was done in class, where pupils were permitted to consult the teacher about spelling, sentence construction or arrangement. This supervised study furnished opportunity for the teacher to discover especial difficulties and give prompt attention to needed habit formation. The best of the rewritten compositions were chosen for the magazine. In the same way descriptions of how to play favorite games, and how to make different articles of interest were used as themes.

During these class discussions standards for oral and written composition were developed, and the pupils felt a real motive for improvement. In all of this work *ideas* were emphasized as the most important phase, and the form was discussed as a necessary tool. Great care was taken that impression should precede organization and expression.

In much the same manner the other classes in the department developed contributions to the magazine. Whenever possible the work was correlated with other subjects, *e. g.*, history stories of Greek gods; science stories of the microscope; in the news items, reports of interesting phases of all subjects, including music and athletics.

Several pupils in the sixth grade volunteered to typewrite all articles which were considered available by the editorial staff. As our school is not equipped with typewriters this experience was limited to a few, who worked at home, but the entire school felt the added touch of reality to the situation.

In the industrial arts classes the sixth-grade pupils designed and made the wood-cuts for the cover pages and illustrations. This furnished a motive for investigation of principles underlying this work and a stimulus

for best effort, in order to secure artistic results. As the work proceeds and interest increases it is hoped to study paper making as an industry.

The art of printing was the theme of informational reading during the literature period in the sixth grade. Reports were prepared by various pupils for the program in general assembly. Letters were written by pupils to the department of visual education, thereby securing a lantern lecture showing the "History of Printing" and "The Making of a Magazine."

Talks by the head of the printing department and visits to the print shop made the situation more vivid for the pupils. Different pupils were selected to assist in the shop whenever the work was of such a nature that their help was needed.

The different classes in arithmetic estimated the cost of the magazine and computed the necessary arithmetical calculations involved in the making.

When the first number had gone to press the editorial staff issued a bulletin of instructions concerning the rules which should govern all contributions. These instructions suggested standards in thought as well as arrangement. The bulletin was read in general assembly, and a copy posted in each room.

The project has but started, but already the interest is all that could be desired, while a marked improvement is evident in all work in English, and in the general school spirit.

INDUSTRIAL ART.

MISS KATHERINE MORRISON, Supervising Teacher.

Most, if not all, of the instruction in industrial art in the intermediate department is based upon the project-problem plan. Since, however, some of the projects appear to follow this method more closely than others, these have been chosen from the semester's work as typical of the results sought in industrial art. Occasionally the completion of a project occupies the entire semester, while other projects extend over a few weeks only, and still others require but a few days or even a single lesson.

SIXTH-GRADE INDUSTRIAL ART.

Under the direction of the supervisor of English the sixth grade published a magazine to which they gave the name of "Searchlight." The project of illustration and decoration arose and the class voted to submit the art features of their magazine to the supervisor of art. The request for assistance was presented in writing. The reading and explaining of the note called forth an informal discussion as to the best way to plan for such a project and how much and what information must be obtained before operations could begin.

The question arose as to whether the class should examine the illustrations already in stock at the print shop and choose from those or make their own designs. The latter plan was unanimously and en-

thusiastically agreed upon, and the following outline in substance was made:

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Size of cover. 2. Size of page. 3. Margins. 4. Number of illustrations desired. 5. What a wood block is. 6. How a wood block is made. | <ol style="list-style-type: none"> 7. What tools are used in making a wood block. 8. What kinds of material are used. 9. Our color schemes. 10. What a tail piece is. |
|---|---|

The following information was obtained and reported to the class:

1. Size of magazine cover $8 \times 6\frac{1}{4}$ inches, and pages treated as vertical rectangle.
2. Pages the same size as cover. This is not true of books as cover always projects over edges of leaves.
3. Designs must be made small enough to allow $\frac{1}{2}$ -inch margin.
4. There will be three larger designs and many small ones.
 - (a) One large design for cover.
 - (b) One large design for poem September by 6A.
 - (c) One large design for poem September by 6B.
 - (d) Many small designs to be used as tail pieces.
5. A wood cut is a block of wood, type-high, upon which a design is cut. This block may be used in a printing press with other type. It looks like a rubber stamp, only thicker.
6. A design is drawn on paper, then transferred to the block of wood and cut out. The block must be held firmly in a vise or clamped to the table.
7. A sharp knife, a vise and a gauge are the tools used in cutting a block.
8. Finely grained wood is used, but this is difficult to cut. A firm, smooth piece of linoleum glued to a block of wood, making it just as high as ordinary type, is more easily cut and absorbs printers' ink readily.
9. Class colors gold and violet will be used if the materials can be found at the print shop.
10. A tail piece is a decoration used at the close of a chapter or poem or on the last page of a magazine.

Since there are twenty-three children in the sixth grade it was necessary for the class to decide whether each member should try out for the designs or whether the class should choose four people to represent them as the art contributors to the magazine. The vote was in favor of the former plan, every one making a design for the cover. Only the 6th B's tried out for the illustration to their poem, and the 6th A's for theirs. The best of these were selected and corrected by the supervisor.

One recitation period (55 minutes) was spent in making the cover designs. Many interesting and original ideas were expressed in these drawings. Most of them were realistic representations of searchlights located on high towers, on ships at sea, on airplanes and lighthouses. A discussion and examination of these designs resulted in the following conclusions:

1. A searchlight is not beautiful in shape.
2. An object used as a decoration must be beautiful.
3. Any light-giving object could symbolize "Searchlight," and if beautiful would make a suitable decoration.

A design in which a candle was used as a decoration was chosen for the cover. It was corrected and assigned to a boy in the class who could cut well. When the block was cut the design was ready for the printer.

The designs illustrating the poems were worked out in a similar man-

ner, while only three people cut the large blocks. The small blocks designed for tail pieces were cut by the entire class.

In the final scheme it seemed best to use only one of the tail piece blocks. The others were returned to the children who cut them. These are still serviceable and can be used by hand just as any rubber stamp.

BELGIUM INTERPRETED THROUGH LOCAL ENVIRONMENT.

MISS JENNIE WILLIAMS, Supervising Teacher of Geography, and
MISS OLLIE WOLF, Student.

The sixth-grade geography class in summer school, 1919, was studying Europe. This project was the outgrowth of a study of Belgium. As the work neared completion, the teacher asked the children what they would like to contribute on Belgium for the benefit of the other grades at their general assembly. One suggestion was that of making maps. This did not meet with approval by the class. As no thought other than what had been used at some previous assembly was suggested, the teacher asked, "How would you like to have a picture show?" Some of the children had taken part in a pageant, a picture of which had been taken by a moving picture machine. The class asked with much enthusiasm,

"May we have moving pictures? May we take pictures?"

Teacher, "Yes, if you can work it out."

Many ideas for pictures came in quick succession. One girl said, "My cousin has a farm north of town. We could show how the people work in the grain fields, because they have wheat. They have a creek right by the wheat field. We could use the wheat straw to show how flax is retted in the Lys river. Oh, yes, they have grapevines, and we could show the people working in the vineyards."

Another asked, "Who would take the picture?"

Another replied, "They had to get a man from Kansas City to take that pageant picture."

A fourth child said, "We couldn't afford to pay a man to come from Kansas City with his moving-picture machine. Can't we use kodak pictures?"

RICHARD. "I have a kodak."

BEATTY. "My father has two. I'll ask him for the use of one."

HAROLD. "Can't we go out to the farm this afternoon and take lunches along?"

TEACHER. "Yes."

All (clapping hands). "Won't that be fun?"

RICHARD. "Let us go out at one o'clock."

The afternoon classes prevented our going before two-thirty. The children were ready at the appointed hour with kodaks, costumes and lunches for a three-mile hike to the farm. The fact that the thermometer registered around 100 degrees made no difference. On the way out cows were grazing in a meadow. Beatty said, "They have dairying in Belgium. Let us take a picture of these cows."

Further along sheep were seen in a pasture by the river. "I want a picture of these sheep," said Richard, slipping through the fence to get near enough.

We passed men threshing wheat. The children cried out, "Oh, let us have a picture of them threshing."

The teacher asked, "Why do you want that?"

"We can show the difference between the way they thresh here and the way they do in Belgium."

Reaching the farm we were glad to see the well. We rested and ate our lunches, watching the while that the sun was not getting too low for taking pictures.

Upon reaching the wheat field, the children put on their costumes and planned that shocking the wheat would look like the peasants working in the fields. One child looked like pictures of Belgian refugees. He was so named and snapped.

They carried straw to a sunny spot on the creek bank, arranged it as they had seen pictures, and had their pictures taken while at work. The vineyard was the next point of interest. The inviting bunch of grapes, though green, suggested picking them. Thus was the picture taken.

After eating the remaining bits of our lunches, we turned homeward. Imagination ran riot. A silo midst a clump of trees with a barn as a background loomed up against the western sky like an old castle of the Rhine.

In the next class period plans were made as to where to have the pictures developed and how the expenses would be met. Each boy owning the kodaks took the responsibility of having the pictures developed and printed. The class shared in the expenses.

How to use the pictures was the next question. One boy said they could be shown with the reflectoscope in the science hall. Plans centered upon this idea. It was decided one child was to explain the pictures. He was to have a pointer to show the details and to signal a change of pictures. Two other boys agreed to run the machine. They thought they ought to practice before giving it before the children.

Also plans were made for taking more pictures that afternoon. They said the school coal pile would make a good coal-mining picture. The boys planned to come in overalls with picks and shovels.

Some one offered to bring a wagon, another a dog and some cans, so they could show the dog carts of Belgium. While they were out in the afternoon, taking these pictures, some children passed carrying two Belgian hares. Of course the class wanted a picture of the hares.

In the third recitation period plans were completed for the entertainment. The pictures the children took were supplemented by pictures from the library and arranged as follows: 1. Flag of Belgium. 2. Map of Belgium. 3. A harbor scene in Antwerp. 4. Scenes in Belgium. 5. Liege. 6. Peasants at work in a field. 7. Threshing wheat in Kansas. 8. Retting flax in Lys river. 9. A vineyard. 10. Belgian hares. 11. A dog cart. 12. Mining coal. 13. A Belgian refugee.

In the next study period the class wrote what they thought would be interesting to tell about these pictures. Then the good points from each were selected and one member of the class, Eugene, was chosen as the "lecturer." In the afternoon the "lecturer" rehearsed with the pictures, the two boys learning how to manipulate the machine. The entertain-

ment was given the next morning. Grades five, seven and eight, the student teachers and parents were invited.

This is the talk Eugene gave:

BELGIUM.

1. The flag of Belgium is red, black and yellow. Belgium is a very small country with a very small sea coast.

2. This is a map of Belgium. It is a level country with a few mountains in the south.

3. Antwerp is a great river port. It gets all the sea trade for Belgium. The city is about fifty miles from the sea, and trades with all the important nations of the world: Africa, United States, Russia, Brazil and Argentina. Many canals connect Antwerp with other rivers that lead to the sea.

4. Brussels, the capital of Belgium, is a beautiful city. This shows a hotel there. Brussels is in the center of the country, but it is connected with the sea by a canal. The Brussels carpets are manufactured there, and they make very beautiful laces and lace dresses.

5. Liege is the important inland city. It is near coal and it manufactures firearms.

6. This is a picture of peasants working in the fields.

7. Here is the way we thresh wheat in Kansas. In Belgium their farms are too small to use such large machines. They raise so little grain that they thresh by hand.

8. There is much flax raising in Belgium. It looks like wheat stems with blue flowers on the end. These are Belgians retting flax in the river Lys.

9. Wine and grape juice are made. This is a picture of peasants in a large vineyard.

10. The Belgian hare or Flemish rabbits are raised. The peasants eat them, as we raise and eat chickens.

11. In Belgium most all the carts and milk carts are pulled by dogs. This is a picture of a dog cart. You can see the old lady with a milk pail.

12. Much mining is carried on in Belgium. Coal is the most important, but zinc, iron and a little silver are mined. See these poor boys of Belgium mining coal.

13. Here is a picture of one of the Belgian refugees. You can see how much he is in need of food and clothes.

The effort of the children was splendid throughout. The results, although somewhat crude, showed ability to manage affairs of value in everyday life. Children of this age are not of an analytical turn of mind. They do not care to dwell upon how they do things. To reach the end in view is the main issue. Teachers would find it worth while to have a stenographer present to catch the details of the working out of a project.

A STUDY IN LAWN PLANNING.

MISS FLORENCE G. BILLIO, Supervising Teacher of Elementary and General Science.

In the spring of 1918, the campus of the Kansas State Normal School, at Emporia, was undergoing many changes. The administration building had just been completed and, as a result, the campus was in a disorderly condition. The eighth grade elementary science class of the Junior High School of the Kansas State Normal became interested in these changes and asked many interesting questions in class. During the class period these changes were listed on the board by a member of

the group. After all the changes which the class had noticed had been discussed, the class, led by one of its members, organized the materials in the following form:

I. THE FRONT CAMPUS.

1. The campus is being graded south of the main building.
2. A terrace has been graded southeast of the main building.
3. Sod has been transplanted on the terrace southeast of the main building.
4. The annex is being torn down.
5. Cement steps leading east from the south door of the main building have been laid.
6. The walk on the north side of and running parallel with Twelfth avenue has been lowered for the purpose of making a slight grade south of the building. This will tend to make the main building look higher.
7. Beds have been dug for the new cement walks and driveways.
8. Arbor vitae, Austrian pine, and spirea have been planted south of the main building.
9. Sunken gardens are to be made on the site of the old building.

II. THE BACK CAMPUS.

1. The foundation for the new driveway west of the main building is being made.
2. The ground north of the main building is being graded with a slope toward Wooster lake.
3. A dam is being made north of lake Wooster for the new lake which is being planned.
4. Shrubs are being planted in the field north of the main building.

Out of the discussion of the changes which were being made on the campus grew questions such as these: "How did the person in charge of the campus know what changes to make?" "What served as a guide to the person in charge of the campus in making the changes which are being made?" From these and other questions the following statement, which incorporates the thought of the various questions asked, was made: "What problems did the person in charge of the campus have to consider in order to plan the arrangement of the campus?"

A careful study of the campus was then made by means of several excursions, during which time each pupil kept accurate notes of all points which he considered essential in the arrangement of the campus. These problems were then discussed by the group in a general discussion or "clearing up" period. The notes of each pupil were then given to a committee of three persons selected by the class. This group of three members stated and organized the problems as follows:

1. How can we make the main building the center of interest on the campus?
2. How can we make the campus a unit?
3. How can we make the campus pleasing from a distance?
4. What principles should guide us in planning a lawn?
5. What is the purpose of landscape gardening?
6. What principles should guide us in selecting trees for lawn planting?
7. What principles should guide us in selecting shrubs and woody vines for planting on the campus?
8. What principles should be considered in selecting herbaceous plants for lawn planting?
9. Plan a home applying the principles of lawn planting which have been worked out.

While this organization of materials was being made, the other members of the class worked in the library selecting materials on landscape gardening for future class use.

The library section of the class and the committee of three then came together in a general meeting at which a report of work accomplished was given. To satisfactorily answer the questions which had been raised, two methods of procedure were suggested by the class: to read books on landscape gardening and thus secure answers to the questions, or to study the homes in Emporia in an effort to discover the principles of lawn planting observed by the owners of the homes. It was agreed that both procedures were essential; that the study of the homes should be made first; and that as a check on the conclusions reached, various books on the subject should be read.

In an effort to learn the principles of landscape gardening, the class, for several lessons, worked as a group in studying homes in Emporia. The first of these excursions was conducted by the teacher, who helped guide the observations of the boys and girls. At the close of this period a list of points concerning the arrangement of lawns was made. Leaders for the following excursions were then selected by the class. In this field work about thirty homes were studied. The work was conducted as a piece of research. All personalities were cast aside while the pupils worked for principles to guide them in lawn planning. Both poorly and well arranged lawns were studied. Both strong and weak points in the arrangement of lawns were discussed. In each case a reason was given for the decision made. When a weak point was considered, an improvement was suggested by the pupils. At the close of each period, time was given for each pupil to add to and to reorganize his list of points. An opportunity was also given for the asking of questions or for the discussion of situations which were not clear in the minds of the boys and girls. This offered an opportunity for free expression of views, for free questioning by the class, and for suggestions concerning possible ways of improving the poor arrangement of lawns.

At the close of this study of homes, each member of the class made a summary of his work in some form which he believed gave the result of his investigation in the clearest and most concise form. The following is a copy of a summary of the work made by one member of the class:

"The purpose of landscape gardening is to carefully work out a plan of planting and arranging a lot in order to make it as attractive as possible.

"In planning a home, the size of the lot must be considered. A very large house should not be placed on a small lot. A very small house will not be attractive on a large lot. The direction in which the house faces is important. The slope of the land must be considered. A terrace offers good drainage and makes the place attractive. The color of the house should blend with the trees, shrubs, and flowers.

"A very important thing to consider is the arrangement of the trees. The purpose of planting trees and of placing them correctly is to give shade and to protect the house, barn, and yard from the wind and sun. If a large space is to be filled, a large spreading tree should be selected. If the space is small and shade is not desired, a spiral shaped tree can be used. A tree should never be planted where it will break the lawn, or break the view from the house, or hide the important windows of the house. Trees planted too close to the house may cause the house to be damp. The distance between trees should be considered. If they are planted too close to each other, they will not develop good shapes. The

leaves of trees are green, but there are many shades of green. Some trees have showy blossoms or fruits. These points should be considered before selecting trees for planting. A person should know whether the tree desired is a long-lived tree or a short-lived one. The elms and oaks are long-lived trees and grow slowly; but when full grown, they are large, spreading, and beautiful. The boxelder is a rapid-growing tree and has a medium length of life.

"Flowers make the lawn look brighter and add to the beauty. They should not be planted in a cluttered way or in any place to spoil the lawn. The kind of place to be decorated, the location, the sun relations, and the purpose of decoration should determine the type of flowers to be selected. If the spot is shady, lilies of the valley or violets may be used. If a wall or a fence is to be hidden, a vine or tall growing plant should be used. The color of the flowers selected is very important.

"Shrubs are used for screens, ornaments, hedges, and for bedding purposes. If a shrub is used as a screen, a tall one should be selected; if used for a hedge, a shrub like the California privet, which grows dense and is easily trimmed, will be satisfactory. The color of the blossom and the type of foliage should be considered.

"Some people do not observe the principles of landscape gardening but break the lawn by trees or shrubs or build the house very close to the street. People who do observe the rules have roomy, well-arranged lawns with the house, garage, and walks arranged as conveniently as possible."

As a result of the various summaries which were given, a tentative outline of points observed in lawn planning was made by the class. Three lessons were then spent in reading books, magazine articles, and bulletins dealing with landscape gardening and in studying pictures of lawns. All new ideas were listed. Following this reading another excursion was made to study lawns for the purpose of observing the points which had either not been observed by the class or which did not agree with the conclusions previously drawn.

As a result of the study of Emporia lawns, of the reading of books, magazines, and bulletins dealing with landscape gardening, and of a study of pictures of well-arranged homes, the following outline of general principles of lawn planning was worked out by the class as a group, with one member acting as leader:

1. There should be a long axis to the plot. (a) It can be made by the arrangement of trees and shrubs. (b) It gives length or depth to the lot.
2. The house should be the central figure for it is the most important building on the lot. (a) Terraces will help to make the house the most important feature on the lot. (b) Grading the lawn will help to make the house the center of interest on the lot. (c) The planting of shrubbery should emphasize the house. (d) The arrangement of walks and drives will emphasize the house as the most important feature on the lot.
3. The yard should be a unit.
4. There should be balance in the arrangement of the lawn.
5. Walks should lead directly to the house. If it is necessary to have winding walks, shrubs should be planted to make the walk more attractive.
6. There should be a broad, open, central lawn. There should be nothing to obstruct the view from the main window of the house unless there is something which must be hidden.
7. Plants for lawn planting should be selected with a definite purpose in mind, as screening, bedding, beauty, blossom, color combination, and shade.
8. The type of planting should harmonize with the style of architecture used in the building. (a) A formal design for the house requires a formal type of planting. (b) The average city home has a graceful design and requires natural, graceful arrangement

of plants in the lawn. The planting should resemble nature's method of planting as observed along country roads. (c) Planting in straight lines should be avoided. If planting is in straight lines, the loss of one plant spoils the desired effect. In the natural way of planting mistakes are not so noticeable. (d) Mass planting should be used along the sides of the lot. (e) Shrubs should be planted to hide foundations of buildings.

After the general guiding principles of lawn planning had been agreed upon by the class, a new question arose, "How did the person in charge of the campus know what plants were best to use in certain places?" To answer this and other questions asked, the group decided that the best results could be accomplished by dividing the class into three divisions: One to study the principles involved in tree planting; a second to study the principles of shrub planting; and a third to study the principles regarding the planting of herbaceous plants. The members of each group worked independently but met daily with the other members of the group to state the results of their study, and to discuss general problems of interest to the group.

The following is a study of the principles of tree planting as given by one member of the class:

I. PURPOSE OF TREE PLANTING.—(1) *Protection*: (a) From weather; (b) From sun. (2) *Shade*. (3) *Ornamentation*: (a) Purpose of ornamentation: (1) To hide or screen unsightly places; (2) To hide or screen porches and back yards. (b) *Color*: (1) For winter; (2) For summer. (c) *Shade*.

II. LENGTH OF LIFE OF TREES.—(1) Short-lived; (2) Medium long-lived; (3) Long-lived.

III. RAPIDITY OF GROWTH OF TREES.—(1) Rapid growing; (2) Slow growing.

IV. LOCATION OF TREES IN YARD.—(1) *Good arrangement of trees*: (a) To make the lot look longer; (b) To serve as shelter; (c) To give a finished appearance and a balanced effect to the lot. (2) *Poor arrangement of trees*: (a) To hide important windows of the house; (b) To break an open lawn; (c) To give an unbalanced effect to the lawn; (d) To give a crowded effect.

Another member of the class considered the problem of tree planting in the following manner: "In selecting trees for lawn planting, one should think of the purpose of planting the tree, that is, whether it is planted for shade, for protection from the wind, or for ornamental purposes. If trees are planted for ornamentation, the shape, size, color of blossom, kind of fruit, and the shade of green in the leaves must be considered. If they are planted too close together, the trees will not have their proper shape. The rapidity of the growth of the tree will influence a person in his selection of a tree for planting."

The following list of common trees with characteristics which will guide in the selection of trees for lawn planting was made by another member of the class:

Name of tree; Average height; General shape; Length of life; Purpose in planting.

American elm; 75-100 feet; vase shaped; long-lived; shade and beauty.

White ash; 50-75 feet; pyramidal; medium long-lived; shade and beauty.

Hackberry; 40-60 feet; broad, rounded crown; medium long-lived; ornament.

Hard maple; 60-100 feet; broad, round-topped crown; long-lived; wood, shade and beauty.

Catalpa; 40-50 feet; irregular crown; medium long-lived; ornament and posts.

Boxelder; 30-50 feet; broad, open crown; short-lived; ornament and shade.

Cottonwood; 70-90 feet; open, spreading crown; short-lived; shade which is desired in a short length of time.

- White cedar; 40-50 feet; cone shape; long-lived; winter color and hedge.
- Red cedar; 30-40 feet; rounded crown, pyramidal; long-lived; winter color.
- White oak; 60-80 feet; broad, open crown; long-lived; shade, beauty and fall color.

The following study of shrubs for lawn planting was given by a member of the class: "The selection of shrubs is very important in planning the lawn of a home. Beautiful shrubs help to make the home more attractive. Shrubs may be used for screening or hiding something which detracts from the unity of the home. The following table groups some of the common shrubs according to the purpose for which they may be used:

Flower; Time of flowering; Color of flower; Purpose in planting.

- Spiraea; spring; pink, white; screen and hedge.
- Althea; late summer; pink, red, white, purple, variegated; hedges.
- Lilac; spring; white, purple; screen and hedge.
- Flowering almond; early spring; white, pink.
- California privet; summer; white; screen, hedge and winter color (green during early winter).
- Japonica; early spring; red, white, orange; screen.
- Weigelia; spring, summer; pink, white.
- Arbor vitae (hedge and winter color).
- Syringa; spring; white; screen.
- Snowball; spring; white; screen.
- Foraythia; early spring; yellow; screen.
- Tamarix; spring; pink.
- Sumach (hedge and winter color).
- Deutzia; spring; white, pale rose; screen.

Another member of the class gave the following study of shrubs:

Name of shrub; Height; Time of blossoming; Color of blossom; Purpose in planting.

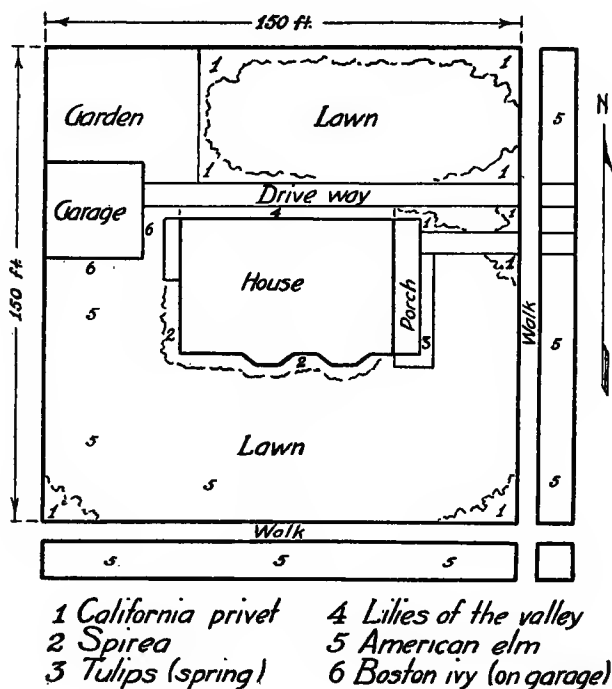
- Althea; 4-6 feet; late summer; pink, red, purple, variegated; hedge, ornament and massing.
- Flowering almond; 4-6 feet; early spring; pink, white; early spring flowers.
- Foraythia; 1-10 feet; early spring; yellow; early spring flowers.
- Lilac; 3-10 feet; early spring; purple, white; screen, hedge, flowers.
- Mock orange; 6-10 feet; spring; white; screen and flowers.
- California privet; 3-6 feet; summer; white; hedge and screen.
- Snowball; 2-8 feet; spring; white; ornament, screen and flower.
- Spiraea; 3-7 feet; spring; white, pink; screen, hedge and flower.
- Deutzia; 3-8 feet; spring; white, pale rose; screen.
- Arbor vitae; 1-3 feet; ———; ———; ornament and winter color.
- Japonica; 2-6 feet; early spring; scarlet; screen and early spring flowers.
- Tamarix; 4-5 feet; spring; pink; ornament.

The following study of herbaceous plants was given by one member of the class:

Name of plant; Length of life; Height; Time of flowering; Color of flower.

- Sweet pea; annual; 1 to 2 feet; summer; assorted colors.
- Zinnia; annual; 2-3 feet; summer; yellow, red and variegated.
- Nasturtium; annual; dwarf climbing; summer; yellow and red.
- Aster; annual; 2-3 feet; late summer and autumn; white, pink, purple and variegated.
- Coamoia; annual; 5-6 feet; fall; white, pink, lavender and orange color.
- Marigold; annual; 1-2 feet; summer; yellow.
- Bachelora buttons; annual; 1-2 feet; summer; purple and lavender.
- Candytuft; annual; 6-12 inches; summer; white.
- Pony; perennial; 1-2 feet; spring; white, pink and red.
- Balsam; annual; 4-6 inches; summer; white, red and pink.
- Salvia; annual; 12-18 inches; summer; red.

After this careful consideration of the principles of lawn planning, the members of the class were anxious to use the principles which they had discovered, in the planning of a home. They wanted to carry their ideas into their own homes in order that they might be more attractive. As a result of this desire, each pupil made a plan for the lawn of the home which he was planning and decorating in his art class. A copy of the plan of the lawn made by one member of the group is given below.



Interest in Measurements of School Results.

The growth of intelligent interest on the part of school administrators in the practical application of educational tests to supervision is encouraging to all who believe in the possibility of the development of really scientific oversight of school work. The rapid accumulation of material making possible reliable standards of accomplishment under varying conditions will soon make it possible for any teacher to determine the efficiency of her own work in most of the fundamental studies.

We are still suffering in every kind of school activity from the vagueness of our knowledge, both as to the proper content of our curricula and as to the amount and nature of progress to be expected from the

class or the individual. The coöperation of a steadily increasing number of school people insures greater definiteness in our own conceptions as to ways of securing better results through their reports of the results of their efforts to make their own educational measurement work function in more skilful teaching.—C. E. Chadsey, in *"School and Home Education."*

National Needs.

The great changes in the conditions of American industry and commerce consequent upon the war have developed unforeseen needs in the field of vocational education.

Reconstruction involves a far-reaching readjustment of the trade and commerce of the world. The United States has an opportunity to develop leadership in foreign trade; but to do this she must train men in the field of foreign trade and commerce; must train men for places connected with transportation on land and sea; must develop a distinctive American design; must prepare large numbers of men for more efficient production in our great industries. There is immediate need for the study and development of adequate methods of education and of suitable courses of study which will prepare workers by the thousands to fill adequately the positions which exist and will continue to offer themselves in the development of our commercial and industrial field during the next few years.

There is need of more active and direct coöperation by the Federal Government with the States in developing their programs, in getting the right kind of classes established, and in setting up an effective co-operation between the State boards and local communities.—*From the Third Annual Report of the Federal Board for Vocational Education.*

A Project in Music Appreciation.

MISS CATHERINE E. STROUSE, Supervisor of Music.

In the seventh-grade class in the Junior High School, we began one day the study of a song taken from Donizetti's "Daughter of the Regiment." We had been doing some library work, looking up such masters as Schumann, Schubert, Gounod, and others. The class asked permission to look up Donizetti, which was granted. When the reports were made, his best known operas were mentioned. That led into a discussion of opera. Some of the class were able to tell the chief characteristics of grand opera. The interest thus led to a request to look up the story of "The Daughter of the Regiment," also with a view to finding out where the song then under way fitted into the story. This was assigned to one girl. When her report was made, the song was sung and a record played of the Overture. Requests came to look up each of the others of his well-known operas. Lucia di Lammermoor and La Favorita were assigned, each to one pupil. As each report was made, members of the class supplemented each, showing that all had been at work on it. Rec-

ords of the best-known numbers of each were played, and the result was a knowledge of Donizetti, of his three best-known operas, and a listening familiarity, at least, with the best-known selections from each.

Later, in the listening work, the study of opera will be begun as a large topic. The class will find that one unit has already been done.

Inadequate Support of Normal Schools.

The training of teachers is influenced not only by the prospective lack of salary for the students but also by inadequate support of these normal schools, particularly in the salaries of the normal school teachers. Few states have a salary schedule for their normal schools which will bear comparison with the salaries in the better high schools of the state. As a nation we spend as much per student per year to educate any high school pupil or any boy in a reform school as we do for the training of a teacher in a normal school. We spend nearly twice as much for a pupil in a deaf school, more than twice as much for a college or university student, three times as much for a blind student, and nearly four times as much for the training of a feeble-minded child.—*N. E. A. Bulletin.*

Teaching.

TEACHING is sent to five thousand teachers, editors, superintendents, school-board members, libraries of Kansas and the country abroad.

Recent numbers of TEACHING will be mailed upon request. The following are available.

- No. 1. German number, August 1, 1914.
- *No. 2. Chapel number, October 15, 1914.
- *No. 3. Physics number, November 1, 1914.
- *No. 4. The question of grades, November 15, 1914.
- *No. 5. The teaching of nationalism, December 1, 1914.
- *No. 6. Playground number, December 15, 1914.
- *No. 7. School-board number, January 15, 1915.
- *No. 8. Mathematics number, February 1, 1915.
- *No. 9. Summer-school number, February 15, 1915.
- *No. 10. Testing the teacher, March 1, 1915.
- No. 11. Superintendent's number, March 15, 1915.
- *No. 12. Vocational education, April 1, 1915.
- No. 13. Vacation activities, April 15, 1915.
- *No. 14. Scientific methods, May 1, 1915.
- No. 15. Y. W. C. A. number, May 15, 1915.
- *No. 16. Fiftyeth anniversary, November 1, 1915.
- No. 17. Correspondence-study number, November 15, 1915.
- *No. 18. High-school survey number, December 1, 1915.
- *No. 19. High-school curricula, December 15, 1915.
- No. 20. Rural-school equipment, January 15, 1916.
- *No. 21. Household physics, February 1, 1916.
- *No. 22. Folk-dance number, February 15, 1916.
- *No. 23. School and nation, March 1, 1916.
- *No. 24. Grade-school arithmetic, March 15, 1916.
- No. 25. Defectives in school, April 1, 1916.
- *No. 26. Some problems in curriculum, April 15, 1916.
- *No. 27. Kindergarten in Kansas, May 1, 1916.
- *No. 28. Grade-school reading, May 15, 1916.
- *No. 29. Play and education, September 15, 1916.
- *No. 30. History in the grades, October 15, 1916. Index of volumes I and II.
- *No. 31. Some aspects of primary education, November 15, 1916.
- *No. 32. The school library, elementary and rural, December 15, 1916.
- *No. 33. Political education in the schools, January 15, 1917.
- *No. 34. The civic core in the school curriculum, February 15, 1917.
- *No. 35. The Wyoming plan of military training in the schools, March 15, 1917.
- *No. 36. Geography for children, April 15, 1917.
- *No. 37. The school and the small town, May 15, 1917.
- *No. 38. Socialized Latin, September 15, 1917.
- No. 39. The professional institute, October 15, 1917.
- No. 40. Oral English in the high school, December, 1917.
- No. 41. The school and the war, April, 1918.
- No. 42. Community recreation, September, 1918.
- No. 43. Methods in physics and elementary science, October, 1918.
- No. 44. Science: Biological and physical, December, 1918.
- *No. 45. Examples of project-problem instruction, February, 1919.
- No. 46. The commerce course, April, 1919.
- No. 47. The high-school library, May, 1919.
- No. 48. Some new ideas in education, October, 1919.
- No. 49. The parent-teacher association, December, 1919.
- No. 50. The project method of instruction, January, 1920.

* Exhausted.



